To: Plescia, Nicole[Plescia.Nicole@epa.gov]
From: Wall, Dan
Sent: Tue 3/4/2014 8:00:18 PM
Subject: RE: Data Request form

Thanks

I thought we had. My bad. Let's get it out today if possible. We are in the Field April 14th and will have some external reviewers to deal with.

From: Plescia, Nicole
Sent: Tuesday, March 04, 2014 12:13 PM
To: Wall, Dan
Subject: RE: Data Request form

I haven't issued an Animas SAP TDF. I'll put one together for your review today. I'll look at past examples.

From: Wall, Dan
Sent: Monday, March 03, 2014 6:49 AM
To: Auer, Steven; Auer, Steven
Cc: Plescia, Nicole
Subject: FW: Data Request form

Steve

Please see the changes to the Animas SAP in attached table and technical info regarding P&W shocking methods below.

From: White - DNR, Jim [mailto:j.white@state.co.us]
Sent: Friday, February 28, 2014 3:45 PM
To: Wall, Dan
Cc: Andrew Treble - DNR
Subject: Data Request form

Hi Dan,

Please see the attached form for your data request. I copied Andrew Treble on this just so you have his e-mail.

Also, the two-pass estimator formula we use to get a population estimate on the upper Animas River is supplied below. This came right out of the Jake-o-matic manual put together in 2006. I could not find the actual papers for the citations, however. Hope this helps and I will follow up with Ed Zink about your request to put a water sampler in on his place.

Thanks,

Jim

Stream MODULE (removal estimator – 2 pass)

2 pass removal estimator from Bagenal (1978)…

Subtraction of P2 in the numerator for small sample sizes…

```
P=1-(P2/(P1+1));

PE=(P1**2-P2)/(P1-P2);

CI=1.96*sqrt(P1**2*P2**2*(P1+P2)/(P1-P2)**4);
```

where P = capture probability; P1 = number captured on the first pass (greater than min length); P2 = number captured on the second pass (greater than min length); PE = population estimate in reach; CI = 95% confidence interval around PE.

Identical formula presented in Seber (1982) from Seber and LeCren (1967) but does not include the subtraction of P2 in the numerator of PE calculation (small sample bias correction).

Bagenal, T. 1978. Methods for assessment of fish production in fresh water, 3rd edition. IBP Handbook #3, Blackwell Scientific Publications, Oxford, U.K.

Seber, G. A. F. 1982. The estimation of animal abundance and related parameters, 2nd edition. The Blackburn Press, Caldwell, New Jersey.

Seber, G. A. F., and LeCren, E. D. 1967. Estimating population parameters from catches large relative to the population. Journal of Animal Ecology 36:631-643.

Jim White

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